

CLAIMS

What is claimed is:

5 1 A digital video computer system comprising:
a bus for communicating information;
a digital video camera for capturing video information associated with
an image and sound, said digital video camera coupled to said
communications bus;

10 a processor for patching missing video information, said processor
coupled to said communications bus;

a monitor for displaying said image, said monitor coupled to said
communications bus; and

15 a speaker for transmitting said sound, said speaker coupled to said
communications bus.

2 The digital video computer system of Claim 1 wherein said processor
determines if said video information is missing.

20 3 The digital video computer system of Claim 1 wherein said video
information is encapsulated in a communications packet compliant with
Institute of Electrical and Electronics Engineers (IEEE) 1394 communication
protocol standard.

4 The digital video computer system of Claim 3 wherein said processor is
also for separating said video information from other information associated
with said communication packet and analyzing the configuration of said
5 video information to determine if said video information properly follows
previously received video information.

5 The digital video computer system of Claim 4 wherein said processor is
also for inserting appropriate default information if said video information
10 under analysis does not properly follow previously received video
information.

6 The digital video computer system of Claim 1 wherein said processor is
also for determining if a segment or block of said video information
15 conforms to the ordering constraints of predetermined video information
configuration requirements.

7 A digital video computer system comprising:
a means for communicating information;
20 a means for capturing video information associated with an image and
a sound, said means for capturing video information coupled to said means
for communicating information;

a means for processing information to determine if said video information is not received and providing patch video information, said means for processing information and patching missing video information coupled to said means for communicating information;

5 a means for displaying said image, said means for displaying said image coupled to said means for communicating information; and

a means for transmitting said sound, said means for transmitting said sound coupled to said means for communicating information.

10 8. The digital video computer system of Claim 7 wherein said video information is encapsulated in a communications packet compliant with Institute of Electrical and Electronics Engineers (IEEE) 1394 communication protocol standard.

15 9. The digital video computer system of Claim 8 wherein said video information is arranged in DIF blocks included a video frame.

10. The digital video computer system of Claim 9 wherein
a real time digital video data section of said communications packet carries a
20 constant number of DIF blocks and the first DIF block included in each of
sequential real time digital video data section falls within an integer number
of DIF blocks of one another, and the integer number is utilized to predict a

DIF block identification of the first DIF block expected in the next sequential communications packet.

- 11 The digital video computer system of Claim 9 wherein ~~said~~ the patch
- 5 (task performed by said means for processing information to determine if said video information is not received and providing patch video information fills in appropriate default information for sequence number bits, a reserved bit, DIF sequence number bits, DIF block number bits and section type bits if a DV packet is missing, including values calculated to provided expected values
- 10 based upon ordering constraints of predetermined video information configuration requirements.
- 12 A missing application data patching method comprising the steps of:
- a) receiving a communication packet carrying application data;
- 15 b) separating application data from other communication packet protocol data;
- c) analyzing received application data to determine if it complies with expected predefined data configuration;
- d) providing a data patch for lost or missing application data; and
- 20 e) forwarding application data and patch data for further processing.

13 The missing application data patching method of Claim 12 wherein
said communications packet is compliant with IEEE 1394 communication
protocol standard.

5 14 The missing application data patching method of Claim 12 wherein
said patch data includes application default data.

15 A digital video information patching method comprising the steps of:

- 10 a) receiving a communication packet;
- b) separating digital video information from other communication
packet protocol data;
- c) determining if said communication packet includes a start of a digital
video frame;
- 15 d) analyzing if an appropriate starting DIF block is received first in said
communication packet;
- e) forwarding the received communication packet for further processing
if the section (SCT), DIF block number (DBN), and DIF sequence value (Dseq)
match expected values; and
- 20 f) performing a DIF patch if section type (SCT), a DIF sequence number
(Dseq) and a DIF block number (DBN) do not match expected values.

16 A digital video information patching method of Claim 15 wherein said communications packet is an IEEE standard 1394 compliant isochronous packet carrying digital video information.

5 17 A digital video information patching method of Claim 15 wherein step b) further comprises the step of removing a data length section, tag section, channel section, Tcode section, Sy section, a header CRC section and a data CRC section.

10 18 A digital video information patching method of Claim 15 wherein step c) further comprises the step of checking to ascertain if section type bits and sequence bits are logical zeroes.

15 19 A digital video information patching method of Claim 15 further comprising the step of retrieving a Quantization (QU) value from an audio auxiliary (AAUX) field in an A3 DIF block of sequence number zero if a received DIF sequence value equals zero, it is an audio section and a DIF block number is set to equal 0x03.

20 20 A digital video information patching method of Claim 15 wherein step d) further comprises the step of determining if information associated with a sequence value, a DIF sequence number and a DIF block number is sequentially continuous from a previously received communications packet.